AMENDMENTS TO THE CLAIMS:

Please amend Claims 1-3, 7, 8, and 10 as follows:

1. (Currently amended) A test method for measuring the low spatial uniformity of a DMD, comprising the steps of:

building a reference surface correction image map;

capturing a test image;

correcting said captured test image to remove DMD mirror tilt angle non-uniformities from said captured test image;

further correcting said captured test image to remove system illumination and optics non-uniformities from said captured test image;

multiplying said captured test image by said reference surface correction ~~reference~~ image map to produce a low spatial uniformity result image; and

extracting low frequency non-uniformity defect data from the result image.

2. (Currently amended) The test method of Claim 1 wherein said reference surface correction image map is formed by means of a light mapping process, comprising the steps of:

stepping a small 50x50 pixel region of DMD mirrors having constant reflectivity from point to point in a grid pattern over the field of view of the test DMD;

recording the intensity data at each of said points in said grid pattern; and

performing a bi-directional interpolation between said grid points in two dimensions over image to provide said reference surface correction image.

3. (Currently amended) The test method of Claim 1 wherein said captured test image is prepared by means of:

capturing said test image in smaller frames;

removing high spatial non-uniformity components using a 21x21 pixel smoothing filter;

stitching said frames together to form a full size test image; and

taking average of said frames to remove said stitched image boundary discontinuities.

4. (Original) The test method of Claim 1 wherein said result image is obtained for:

+20° illumination relative to 0° DMD mirror tilt angle; and

-20° illumination relative to 0° DMD mirror tilt angle.

5. (Original) The test method of Claim 4 wherein said result image isolates and extracts:

high spatial frequency defects;

stitched frame boundary discontinuities;

DMD mirror tilt angle non-uniformities; and

low frequency illumination source and optics non-uniformities.

6. (Original) The test method of Claim 4 wherein:

said result image is flattened;

said result image consists essentially of data representing the DMD mirror reflectivity non-uniformities.

7. (Currently amended) A test method for measuring the low spatial uniformity of a DMD, comprising the steps of:

capturing a test image;

developing a correction reference surface image which conforms to the average surface of said captured test image;

developing a gain factor correction image;

multiplying said captured test image by said gain factor correction image to provide a flattened low spatial uniformity result image; and

extracting the low frequency non-uniformity defect data from said result image.

8. (Currently amended) The test method of Claim 7 wherein said captured test image is prepared by means of:

capturing said test image in smaller frames;

removing high spatial non-uniformity components using a 21x21 pixel smoothing filter;

stitching said frames together to form a full size test image; and

taking average of said frames to remove said stitched image boundary discontinuities.

9. (Original) The test method of Claim 7 wherein said result image is obtained for:

+20° illumination relative to 0° DMD mirror tilt angle; and

-20° illumination relative to 0° DMD mirror tilt angle.

10. (Currently amended) A test method for measuring the low spatial uniformity of a DMD, comprising the steps of:

capturing a test image;

developing a correction reference surface image which conforms to the average surface of said captured test image; wherein said correction reference surface image is formed by:

performing a 3x3 pixel lowpass filtering of said test image;

sub-sampling of said filtered image to provide a representative image having fewer rows and columns;

using said representative image data to generate a set of 2nd order equations; and

using said equations to generate a reference surface having only 2nd order variations;

developing a gain factor correction image;

multiplying said captured test image by said gain factor correction image to provide a flattened low spatial uniformity result image; and

extracting the low frequency non-uniformity defect data from said result image.

11. (Original) The test method of Claim 10 wherein said gain factor correction image is formed from said reference surface data; such that

a flatten image plane results when said reference surface data is multiplied by said gain factor correction image data.

12. (Previously presented) The test method of Claim 10 wherein said result image isolates and extracts:

high spatial frequency defects;

stitched frame boundary discontinuities;

DMD mirror tilt angle non-uniformities; and

low frequency illumination source and optics non-uniformities.

13. (Previously presented) The test method of Claim 10 wherein:

said result image is flattened;

said result image consists essentially of data representing the DMD mirror reflectivity non-uniformities.